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ABSTRACT

One of a series on topics of concern to the U.S. media, this guide is intended to provide journalists with concise, authoritative background information on the U.S. role in the world food situation. Today the United States is the world's greatest exporter of food. The produce of one out of every three acres goes abroad, more than half of it to developing countries. Provided and discussed are tables and charts showing agricultural exports by U.S. region and their percentage share of gross farm sales for selected years; percentage share of agricultural exports by states of region (1980); regional share of agricultural exports by commodities (1980); and the contribution of agricultural exports to employment and farm sale, and state rankings as exporters of agricultural products (1977). The guide discusses debates over the descriptions of the world food situations and variations in prescription--what the well-fed West should do about those hungry millions; also examined are questions that most world food experts agree are crucial. Agricultural research projects of land grant universities are cited as being one of the handiest sources of information on world food issues for the working journalist. The guide concludes with listings of reference materials and resource persons. (RM)

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A MEDIA SOURCE GUIDE

Issues for the '80s

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COVERING THE WORLD FOOD STORY

U.S. Agricultural Exports and the World Food Situation

Jane S. Ragsdale
and
Teen Kari Barua

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SO 014 738

COUNCIL ON INTERNATIONAL AND PUBLIC AFFAIRS
777 United Nations Plaza
New York, New York 10017

1982

INTRODUCTORY NOTE

This guide is intended to provide working journalists with concise, authoritative background information on U.S. agricultural exports and the world food situation, along with some suggestions of sources for additional background. It was prepared by Dr. Jane S. Ragsdale, who directs the Media Resource Project of the University of Wisconsin at Madison's Office of International Studies and Programs, assisted by Teen Kari Barua, a graduate student at Wisconsin from Bangladesh.

This guide is one of the series on topics likely to be of continuing concern to the U.S. media. Additional titles and information on their availability are given on the inside back cover. Because of their experimental nature, comments and suggestions by users would be very much appreciated.

The Council on International and Public Affairs has a longstanding interest in working with the media as one of the principal instruments for enlarging American public understanding of international affairs. Through efforts such as this series of source guides for the media, it seeks to strengthen contacts between working journalists and academic and other specialists on major world regions and international problems. Concerned with pluralizing international news flows, especially from the Third World to the U.S., it works in cooperation with media and other organizations in making available additional sources of international news to the U.S. media. Further information about the Council is given on the outside back cover.

Ward Morehouse
President

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CONTENTS

	Page
INTRODUCTORY NOTE	ii
A Story for All Seasons and All People	1
Bread Basket of the World	1
Description and Prescription Debates	7
The Major Questions and Quarrels	8
The Land-Grants as Sources	9
OTHER SOURCES ON U.S. AGRICULTURAL EXPORTS/WORLD FOOD	11
Entry-Points for Journalists in the Land-Grants and Other Universities Suggested Reading	15
TABLES AND CHARTS	
TABLE I: AGRICULTURAL AND NONAGRICULTURAL TRADE COMPARISON, 1965-1980	2
TABLE II: REGIONAL AGRICULTURAL EXPORTS AND THEIR PERCENTAGE SHARE OF GROSS FARM SALES FOR SELECTED YEARS.	3
CHART I: PERCENTAGE SHARE OF AGRICULTURAL EXPORTS BY REGION	4
TABLE III: REGIONAL SHARE OF AGRICULTURAL EXPORTS, 1980, BY COMMODITIES	5
TABLE IV: UNITED STATES AGRICULTURAL EXPORTS: CONTRIBUTION OF AGRICULTURAL EXPORTS TO EMPLOYMENT AND FARM SALES, AND STATE RANKINGS AS EXPORTERS OF AGRICULTURAL PRODUCTS, 1977	6

This Media Source Guide was prepared under a grant from the Language and Area Research Program, Office of International Education, U.S. Department of Education. The content is the responsibility of the grantee institution and does not necessarily reflect the views of the U.S. Department of Education.

A Story for All Seasons and All People

Food—how to grow more of it, how to distribute it fairly—is a daily concern to everyone and a life-and-death matter for the world's hungry. It is one of the biggest on-going newstories of the late 20th century and also one of the most complicated, with its tangled national and international interests. For journalists covering the food issue, a major problem is that the *food experts* disagree about almost every aspect.

Currently the single thing on which everyone agrees is that world demand for food will rise, and sharply, for the next decade or two and probably well on into the 21st century. Who will meet that demand and how?—without overusing land and inflating food prices in the producing countries?

How urgent is the demand? How many people *go to bed hungry*, are malnourished to the point of mental and physical disability, are actually *starving*? Figures range from hundreds of millions to 2 billion, or nearly half the world's current population. Numbers like these are as incomprehensible to most Americans as the U.S. budget deficit.

But many Americans can at least guess at what it feels like to be hungry, if only because they have had to go on an occasional diet. Humanitarian concern for the world's hungry has ceased to be chiefly a preoccupation of counter-culture types of the 1960s. The millions of private U.S. dollars flowing to CARE, Oxfam, UNICEF, Bread for the World, and other food-relief-and-education organizations reflect that concern. So does opposition to the use of food by our own and other governments as a political weapon. That opposition comes from far more than farmers afflicted by grain embargoes. Less frequently voiced but still widespread is uneasiness about using food aid to gain strategic or military advantages. And all of us are conscious of the behavior of the supermarket cash register which is directly affected by the world food situation.

So there is plenty of interest in the world food story on the part of Americans. The task for the journalist is how to cover it well and responsibly.

Here we outline the main angles of the food story, offer some basic data on the U.S. role in it, and suggest sources of expert help, both people and print.

Bread Basket of the World

Today the United States is the world's greatest exporter of food. The produce of one out of every three acres goes abroad, more than half of it to developing countries. In 1980 agricultural exports totaled $40 billion plus, amounted to 19 per cent of our total exports in cash value and came to nearly 30 per cent of all cash received by U.S. farmers.

We think of ourselves as the world's foremost industrial power. But look at Table I. It was agriculture, not industry, which *redeemed* to some extent the trade deficits of the 1970s. By extension it was agriculture, now occupying fewer than 4 per cent of our population, which helped to prop up the dollar abroad and to earn the foreign exchange for our imports of cars, cameras, and TV sets, not to speak of critical minerals and oil. (See Table I also for growth in the *share* of agriculture vs. nonagricultural exports since 1965.)

Increase in world demand for U.S. food—especially feed grains, soybeans, food grains and vegetable oils—rose by 28 per cent overall between 1970 and 1980. Table II shows the impact of that increased amount by region. The sharp upward lurch between 1970 and 1975 probably reflects the country's response to famines in Africa and South Asia as well as to unprecedented Soviet purchases in that period. Also devaluation of the dollar made our grain cheap for buyers in Europe and Japan.

Chart I shows how unevenly distributed among regions of the U.S. those exports were by 1980. For example, the 11 states of the Northeast exported only 2 per cent of the nation's food while more than a quarter of the output of the five cornbelt states went overseas. Table III provides a further breakdown of U.S. agricultural exports by type of commodity and area. Table IV shows the contribution, by state, of agricultural exports to employment and farm sales, as well as state rankings as exporters of agricultural products.

The World Food Institute at the University of Iowa-Ames, estimates that if world demand for grain continues at current rates, U.S. farmers will have to increase production by roughly another third by 1990. This is in spite of the fact that—except for some countries in Africa and for most Communist countries—rates of food production have risen dramatically throughout the world. Population growth accounts for part of the demand, of course, but greater affluence in the rapidly industrializing Third World countries is pushing demand up, too. In the 1970s, the Iowa study explains, higher U.S. production for overseas markets was achieved in three ways: by clearing new land, by putting idle fields back into production, and by increasing the output of old land with new techniques, more fertilizer and more water. Intensifying

TABLE I: AGRICULTURAL AND NONAGRICULTURAL TRADE COMPARISON, 1965-1980

Year	U.S. EXPORTS				U.S. IMPORTS				TRADE BALANCE		
	AGRICULTURAL	NONAGRICULTURAL	TOTAL	PERCENT AGRICULTURE	AGRICULTURAL	NONAGRICULTURAL	TOTAL	PERCENT AGRICULTURE	AGRICULTURAL	NONAGRICULTURAL	TOTAL
	MILLION DOLLARS	MILLION DOLLARS	MILLION DOLLARS	PERCENT	MILLION DOLLARS	MILLION DOLLARS	MILLION DOLLARS	PERCENT	MILLION DOLLARS	MILLION DOLLARS	MILLION DOLLARS
1965	6,229	20,906	27,135	23	4,087	17,196	21,283	19	+2,142	+3,710	+5,852
1966	6,881	23,003	29,884	23	4,491	20,869	25,360	18	+2,390	+2,134	+4,524
1967	6,380	24,762	31,142	20	4,452	22,281	26,733	17	+1,928	+2,481	+4,409
1968	6,303	27,896	34,199	18	5,024	28,042	33,066	15	+1,279	-146	+1,133
1969	6,022	31,440	37,462	16	4,957	30,906	35,863	14	+1,065	+534	+1,599
1970	7,259	35,331	42,590	17	5,770	33,986	39,756	15	+1,489	+1,345	+2,834
1971	7,693	35,799	43,492	18	5,823	39,693	45,516	13	+1,870	-3,894	-2,024
1972	9,401	39,475	48,876	19	6,467	48,815	55,282	12	+2,934	-9,340	-6,406
1973	17,680	52,566	70,246	23	8,419	60,605	69,024	12	+9,261	-8,039	+1,222
1974	21,999	75,145	97,144	23	10,247	89,893	100,140	10	+11,752	-14,748	-2,996
1975	21,884	84,334	106,218	21	9,310	87,167	96,477	10	+12,574	-2,833	+9,741
1976	22,997	90,131	113,128	20	10,992	110,803	121,795	8	+12,005	-20,672	-8,667
1977	23,636	95,308	118,944	20	13,439	135,280	148,719	9	+10,197	-39,972	-29,775
1978	29,384	111,770	141,154	21	14,803	158,147	172,932	9	+14,579	-46,377	-31,798
1979	34,745	143,833	178,578	19	16,725	189,198	205,923	8	+18,020	-45 365	-27,345
1980	41,236	175,336	216,592	19	17,366	222,577	239,943	7	+23,890	-47,241	-23,351

Source: USDA, U.S. Foreign Agricultural Trade Statistical Report, Calendar Year 1980, A Supplement to the Monthly Foreign Agricultural Trade of the United States, May 1981.

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TABLE II: REGIONAL AGRICULTURAL EXPORTS AND THEIR PERCENTAGE SHARE OF GROSS FARM SALES FOR SELECTED YEARS

(Back-Up data for the pie-charts on page 4)

REGION†	EXPORT VALUE IN MILLIONS OF DOLLARS*						EXPORT AS PERCENTAGE OF GROSS FARM SALES**					
	1966	1970	1975	1977	1979	1980	1966	1970	1975	1977	1979	1980
Northeast	262.3	156.2	452.5	539.3	684.2	810.3	7.65	4.20	8.17	8.81	8.74	9.86
Lake States	433.9	428.5	1,572.4	1,498.2	2,705.3	3,292.6	10.60	9.14	19.37	16.14	21.96	24.52
Corn Belt	1,832.4	1,910.5	6,000.1	7,623.6	9,519.3	11,439.6	17.66	16.75	30.29	35.02	33.74	36.90
N. Plains	914.4	900.8	3,554.2	2,751.1	4,653.7	6,291.0	19.02	15.26	32.90	25.07	28.14	36.71
Appalachian	576.3	709.7	1,645.0	2,063.0	2,477.4	2,726.2	17.94	18.54	26.01	29.94	28.09	29.29
Southeast	346.0	412.8	1,245.2	1,509.2	1,825.2	2,209.4	11.15	11.06	18.36	21.09	18.34	23.23
Delta	426.4	595.4	1,659.0	2,098.3	2,488.0	3,094.1	18.78	21.91	36.29	39.32	36.14	45.60
S. Plains	667.2	545.8	1,937.4	2,171.0	2,752.4	4,130.6	19.01	12.61	25.14	25.46	20.87	31.37
Mountain	365.2	354.3	1,498.8	1,293.2	1,960.9	2,312.5	11.61	8.60	22.00	18.15	18.41	20.71
Pacific	724.2	707.4	2,286.7	2,466.5	2,909.0	4,174.0	13.19	11.59	19.47	19.74	17.05	22.82
United States	6,548.3	6,721.4	21,854.3	24,013.4	31,975.4	40,480.5	15.08	13.30	24.78	25.10	24.32	29.33

†See Table III, page 5, for the breakdown of states by region.

*Source: USDA, Foreign Agricultural Trade of the United States (FATUS), February 1967, February 1978, and January-February 1981.

**Estimated: Data on Gross Farm Sales from USDA, Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics, 1979, (Statistical Bulletin No. 661, March 1981, and Agricultural Outlook, March 1981.

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CHART I: PERCENTAGE SHARE OF AGRICULTURAL EXPORTS BY REGION, 1980

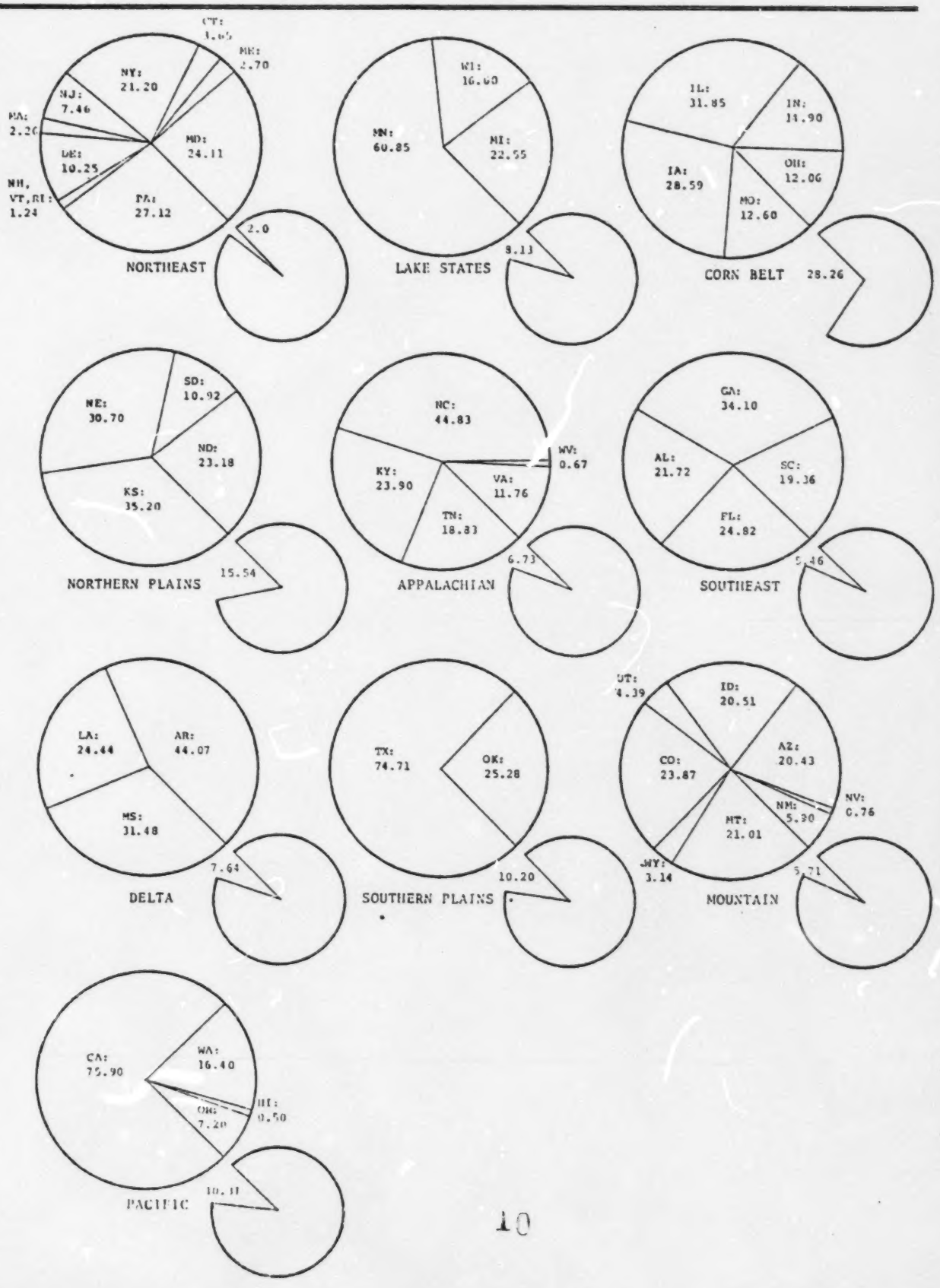


TABLE III: REGIONAL SHARE OF AGRICULTURAL EXPORTS, 1980, BY COMMODITIES (PER CENT)

Commodity \ Region*	North-East	Lake States	Corn Belt	N. Plains	Appala-chia	South-east	Delta	S. Plains	Moun-tain	Pacific
Wheat & Products	0.97	6.14	10.70	38.60	1.59	0.53	0.86	16.02	13.85	10.74
Rice	-	-	0.97	-	-	-	57.20	17.20	-	24.63
Feed Grain & Products	2.45	11.57	49.80	19.81	4.00	2.00	0.24	5.84	2.88	1.41
Cotton & Liners	-	-	1.06	-	1.45	3.99	18.40	41.96	10.31	22.73
Soybeans & Products	1.28	9.03	51.97	5.37	8.11	7.40	15.56	1.28	-	-
Peanuts & Oil	-	-	-	-	15.89	63.34	0.40	19.80	0.57	-
Cotton-Seed Oil	-	-	1.13	-	1.45	3.80	17.81	41.30	10.48	24.01
Sunflower Seed	-	25.61	-	73.22	-	-	-	1.17	-	-
Tobacco, Unmanufactured	3.75	-	1.27	-	75.67	19.30	-	-	-	-
Fruits & Preparations	4.15	2.22	0.83	0.04	1.61	22.94	0.17	2.15	3.34	62.55
Nuts & Preparations	-	-	-	-	-	0.41	0.17	0.53	0.07	98.81
Vegetables & Preparations	4.76	17.72	1.40	7.68	0.84	7.97	0.24	2.16	19.43	37.80
Dairy Products	13.50	49.14	16.31	3.84	0.57	-	0.13	0.06	1.73	14.71
Meat & Products	2.40	7.84	26.18	18.49	6.26	4.94	3.15	14.30	11.15	5.30
Hides & Skin	4.40	20.09	15.70	14.24	3.60	3.20	2.44	12.60	15.71	8.03
Poultry Products	15.19	3.75	6.51	0.90	13.41	24.81	19.74	6.08	1.10	8.51
Lard & Tallow	2.61	6.70	17.77	20.01	5.50	4.84	3.62	18.14	14.12	6.69
Other	2.00	8.13	28.26	15.54	6.74	5.46	7.64	10.20	5.71	10.31

*Northeast: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, **Delaware,** Maryland; Lake States: Michigan, Wisconsin, Minnesota; Corn Belt: Ohio, Indiana, Illinois, Iowa, Missouri; N. Plains: N. Dakota, S. Dakota, Nebraska, Kansas; Appalachia: Virginia, W. Virginia, N. Carolina, Kentucky, Tennessee; Southeast: S. Carolina, Georgia, Alabama, Florida; Delta: Arkansas, Louisiana, Mississippi; S. Plains: Texas, Oklahoma; Mountain: Montana, Wyoming, Colorado, Utah, Idaho, Arizona, Nevada, New Mexico; Pacific: Oregon, Washington, California, Hawaii.

Source: Estimated based on data in USDA, Foreign Agricultural Trade of the United States, January-February 1981, pp. 68-73.

TABLE IV: UNITED STATES AGRICULTURAL EXPORTS: CONTRIBUTION OF AGRICULTURAL EXPORTS TO EMPLOYMENT AND FARM SALES, AND STATE RANKINGS AS EXPORTERS OF AGRICULTURAL PRODUCTS, 1977

State	Rank as Exporter	Total Export-Related Employment	Percentage of Total State Farm Employment	Export as Percentage of Total Farm Sales	Percentage Change in Farm Sales since 1972
Alabama	22	18,900	20	22.4	225
Alaska	40	n.a.	n.a.	n.a.	n.a.
Arizona	26	5,500	25	23.7	307
Arkansas	11	35,000	33	37.7	158
California	3	54,500	20	19.2	200
Colorado	29	6,500	13	11.9	144
Connecticut	44	n.a.	n.a.	9.2	83
Delaware	39	1,100	20	19.5	280
Florida	20	13,500	14	15.3	164
Georgia	16	18,300	20	21.9	175
Hawaii	37	n.a.	n.a.	18.0	241
Idaho	28	9,900	20	22.0	187
Illinois	1	77,400	50	44.6	235
Indiana	5	50,000	33	40.8	243
Iowa	2	61,800	25	28.9	230
Kansas	6	26,500	25	26.8	174
Kentucky	17	37,000	25	27.4	258
Louisiana	15	23,900	33	41.6	184
Maine	43	n.a.	n.a.	6.5	502
Maryland	34	6,400	20	20.1	231
Massachusetts	45	n.a.	n.a.	5.4	87
Michigan	24	18,400	17	18.3	198
Minnesota	10	47,800	25	23.7	164
Mississippi	13	33,400	33	38.4	182
Missouri	12	50,200	25	28.5	142
Montana	23	10,500	33	33.4	218
Nebraska	7	29,200	25	26.8	249
Nevada	47	300	6	7.0	129
New Hampshire	49	n.a.	n.a.	2.4	171
New Jersey	41	2,500	11	10.6	235
New Mexico	36	2,700	11	11.1	195
New York	35	6,300	6	6.4	150
North Carolina	8	59,000	33	35.8	129
North Dakota	14	22,500	33	34.5	122
Ohio	9	55,000	33	34.1	265
Oklahoma	19	20,200	20	21.1	281
Oregon	32	10,900	17	17.5	182
Pennsylvania	33	9,400	7	7.3	225
Rhode Island	50	n.a.	n.a.	3.4	800
South Carolina	25	21,300	33	38.4	132
South Dakota	31	10,000	14	13.5	69
Tennessee	21	38,000	25	28.7	172
Texas	4	67,200	25	26.9	286
Utah	38	3,700	17	15.5	186
Vermont	48	n.a.	n.a.	1.2	- 18

TABLE IV (Continued)

State	Rank as Exporter	Total Export-Related Employment	Percentage of Total State Farm Employment	Export as Percentage of Total Farm Sales	Percentage Change in Farm Sales since 1972
Virginia	30	16,000	20	22.4	145
Washington	18	17,500	25	23.0	154
West Virginia	46	2,900	7	7.5	166
Wisconsin	27	17,900	9	8.7	153
Wyoming	42	1,200	9	8.5	139

Source: USDA, Industry and Trade Administration, Exports—State Export Series, 1978.

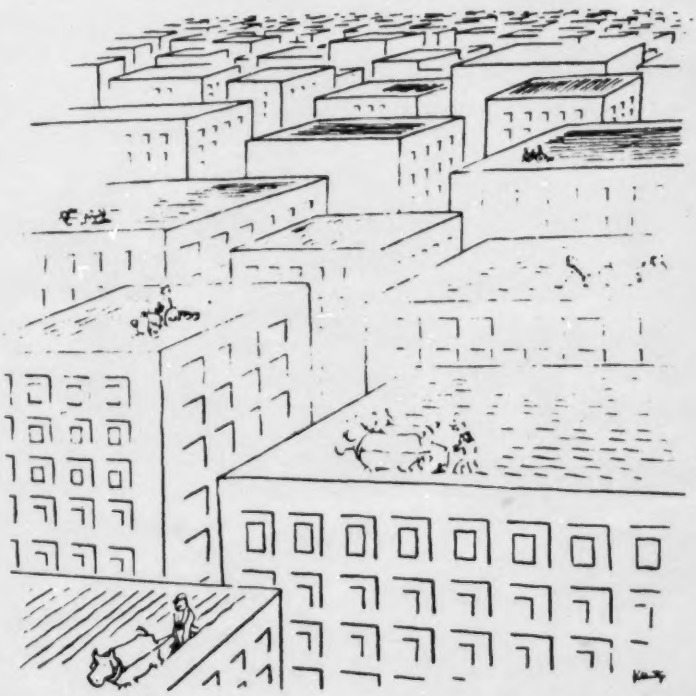
production has its costs, to be sure; some paid at supermarket checkout counters. Other costs are felt by farmers whose anxieties about erosion, water shortages, and the high price of petroleum-based fertilizers have been appearing in popular literature as well as farm magazines and scholarly journals.

Suppose that Iowa's experts are right and that to feed many of the world's hungry as well as ourselves, American farmers must increase production by another third in fewer than 10 years. How can that be done without (1) an insupportable over-use of U.S. farmland, and/or (2) insupportable hikes in the food costs for inflation-pressed Americans?

Should the attempt be made? That question leads to a more emotion-laden cluster of political, economic and ethical questions whose answer was best expressed, many *world food advocates* think, by John Donne in the 16th century: "Do not send to know for whom the bell tolls, it tolls for thee."

Description and Prescription Debates

Trying to research and write about food issues today may bring on a condition known as *paralysis of scale*. The figures stagger us. As we said initially, positions on what world food needs are, why so many millions are hungry, and what ought to be done about it are as numerous as their holders, differ widely, and often contradict one another. And while knowledgeable and well fed people debate the subject, others elsewhere may be badly hurt. Not most of us, perhaps, but instead those gaunt women with their spindly children who have gazed out at us from our TV screens far too often since the early 1970s. And we should not exclude the poor in America, now that poverty is increasing again



WorldPress Review/May 1982 Meropolous/Ta Nea/Athens

in the U.S.*

Variations in description (in contrast to prescription) differ partly because accurate figures on hunger are hard to come by, especially in those acute cases where the fact that people are starving is much more important than counting them. The reasons why so many millions are hungry may vary as much as the desert climate and soils of the Sahel in Africa differ from the tropical climate and soils of Bangladesh. Or the reason may be identical on opposite sides of the globe—poverty.

Not long ago it was said that the world's farmers, no matter how rich and sophisticated they were, could not possibly produce enough to match runaway population growth. Now it appears that the U.S. and other industrialized countries alone can produce enough for every man, woman and child on earth to have an adequate diet—now. But most of that food cannot be given away; it must be paid for. So the gigantic problems of world poverty must be addressed before the hungry can get enough calories, let alone eat *properly*.

Others say that *getting* the food to the people who need it most is the main problem—poor and corrupt distribution systems get between starving children and boxcars piled with grain. Finally, in the grim catalog of reasons for world hunger, war can always be counted upon, whether in Kampuchea during the PolPot holocaust and the subsequent Vietnamese invasion, or in the Horn of Africa as the Somalis and Ethiopians battle it out over the Ogaden desert.

Variations in prescription—or what we in the well-fed West should do about those hungry millions—differ markedly with the interests of the prescriber. They differ, too, because differing perspectives on this web of problems are unavoidable, given its stubborn complexity.

The exception is disaster relief; few quarrel about that. When people are starving because of typhoons or earthquakes or wars, we agree to feed them if possible, at least on a temporary basis. That has been done with spectacular success on occasion, as humanitarian organizations like CARE, Oxfam, the American Friends Service Committee and others proved at the height of the Kampuchea-Vietnamese war three years ago.

Source: The Washington Post
October 25, 1979

The Major Questions and Quarrels

Disaster relief aside, almost every other issue is up for grabs. A sampler here of questions most world food experts agree are crucial—while disagreeing on their answers:

1. How effective are our own Food for Peace and other similar aid-trade programs? Did Food for Peace, for example, build the markets in LDCs (less developed countries) that it was supposed to, while providing immediate aid to the hungry and also drawing down the great agricultural surpluses this country once enjoyed? Many now say "no" and also question whether those several goals were, and are, compatible. Some argue that we have only decreased the ability of poor countries to feed themselves and increased their dependence on our agricultural exports for which they do not have the means to pay.

2. Disregarding the rights or wrongs of *that* particular program, what about U.S. food aid

*) The number of Americans living below the poverty line decreased from 1959 (22.4 per cent) to nearly half (12.1 per cent) a decade later but in 1980 had grown again to 13 per cent (the latest year in which federal figures are available), according to Wallace Peterson, an economist at the University of Nebraska-Lincoln (New York Times, May 9, 1982).

programs in general? For whom, among the malnourished, ought we to take responsibility? At what cost? What ought we to provide—feeder roads and market buildings and nutrition-education programs, for example, as well as agricultural extension advisors to help promote promising new strains of rice or wheat? They are all related and all needed. Where do we stop? Or start?

3. How should food programs fit into the larger foreign aid picture? Aid to the world's hungry may be the least controversial of all types of foreign aid. However, the U.S. now gives less economic aid to the Third World than some 17 or 18 other industrialized nations when measured by percent of gross national product. Even so, most Congressmen from the heartland agricultural states report that their mail runs overwhelmingly against foreign aid of all sorts.

4. How generous can today's American public, obsessed with inflation and unemployment, be expected to be in regard to world food needs?

5. What role ought the media to play in all this—in informing and educating the American public about world food problems and needs? (It is hard to entertain while treating this particular subject.)

6. Whatever happened to the United Nations' program for building a world-wide grain reserve? The current answer to that question appears to be almost nothing, though in the mid-1970s its advocates argued that such a reserve would both stabilize world grain prices for all of us and also provide immediate supplies in cases of natural or man-created disasters. How much of the responsibility for lack of progress lies with the U.S.? Other countries? The UN itself? Neither the UN's grain reserve program nor other similar projects can be said to be faltering from a lack of effort in discussing them. In 1976, for example, the United States participated in some 89 separate forums, committees and agencies directed toward *solving* world food problems. But discussion rarely leads to concrete international action.

7. Then there is the population-explosion question. Why, ask many Americans, should we pay more at the supermarket so that our farmers can help to feed a Third World which will not—or cannot—control its own frightening fertility? Humanitarian answers to that question abound; national self-interest is also invoked—basic food aid to Third World countries will eventually produce markets which U.S. industries need in the worst way. After all, people who must struggle just to eat enough each day can hardly buy transistor radios or bikes, not to speak of word processing machines.

8. Another major question: Can, and should, food be used as a *policy weapon?* Ought we to reward our friends and punish our enemies by giving or withholding food? Do food embargoes work? And if they do, are they a morally acceptable policy tool?

9. A relatively new question involved a choice between food and energy. How much arable land in the U.S. (and in developing countries) should be given over to grain, sugar and vegetable oils produced as energy-substitutes (gasahol, etc.) rather than to foods for human consumption? Anxiety about the security of energy supplies from the Mideast naturally sharpens debate on that question. Lobbyists for the world's hungry, often non-profit world-food-advocate organizations which struggle along on a *bake-sale* basis, can hardly hope to compete on that issue with the multinationals.

10. Finally, how can press and public sort out options for effective action among the welter of *scenarios* for our food-population-resources future?

The gloomiest of the last decade's predictions came at its beginning with a study titled *Limits to Growth*, in 1972. Using computers to project current trends into the near and distant future, the authors warned us of an unbearably overcrowded, over-grazed world with Third World populations exploding into incomprehensible numbers and famine everywhere except, perhaps, in isolated bastions of the industrialized West.

Immediate and widespread criticism of *Limits* charged, among other things, that its authors took too little account of the ability of agricultural scientists to innovate, to develop new, now-undreamed of, solutions to world food problems. Science could save us all, said these critics.

The Land-Grants as Sources

Indeed, although the famines of 1974 and 1975 in Africa and South Asia roused new fears that science, however, creative, might not be able to cope, later academic and governmental studies of the same issues were not so apocalyptic. By the end of the decade astonishing news was issuing from some labs. Research like that which had produced the Green Revolution was underway both in the great international agricultural research centers and in scores of university labs. Now—an important point—it focused more sharply on foods for hungry people in the poorer nations rather than on improving coffee, pineapples, and other foods grown main-

ly for the tables of the well-to-do.

One of the handiest sources of information on world food issues for the working journalist is the nearest land-grant university. The *land-grants*, established from the mid-19th century onward, were charged with sharing their agricultural research results with state farmers, legislators, journalists, or anyone who asked for it, in exchange for the government land and monies allotted them. Like the University of Wisconsin-Madison, used as an example here, many land-grant institutions also have programs in foreign area, language and international studies. (See page 14 for a list of universities meeting these two requirements as suggested by Dr. James Cowan of the National Association of State Unviersities and Land Grant Colleges, Dupont Circle, N.W., Washington, D.C. 20036 202/293-7120.)

In UW-Madison's case, food-related teaching and research occupies about 500 faculty members or over 15 per cent of the 2,300 faculty members at the university. Thirty laboratories are devoted primarily to agricultural experimentation; fieldcrops and livestock are raised on nine experimental farms, and there are four smaller horticultural farms. In 1979 some $23 million was spent on agricultural research, about 70 per cent of that directed to food problems.

Wisconsin faculty undertake about 350 agricultural research projects in any given year. A sampling: Soybean Breeding and Evaluation Trials (Agronomy); Nutrition of High Producing Dairy Cows (Dairy Science); Financing the Growth of Agricultural Cooperatives (Agricultural Economics); Solar Energy Utilization in Food Processing Systems (Agricultural Engineering); Transmission of Viruses through Food and Water (Food Science); Organization of the R Chromosome Region in Maize (Genetics); Air Pollution Interaction on Crop Plants (Horticulture); Optimum Design of Aquaculture Systems (Mechanical Engineering); and Bovine Respiratory Diseases (Veterinary Science).

Scores of food-related research efforts have powerful international implications without being related to specific regions or countries. For example, as scientists working at UW-Madison and elsewhere learn how to produce protein for human consumption from alfalfa, or develop a variety of corn which can produce its own nitrogen, the entire world can benefit if the results of that research are widely disseminated and the necessary inputs to take advantage of it generally available.

Many projects, however, address food problems overseas directly. Excluding individual research projects abroad, faculty from the UW-Madison campus typically go overseas to pursue 10 to 15 major team projects on food research or agricultural development each year. Some 1980 examples:

- In 1980 UW-Madison researchers from the Institute for Environmental Studies were analyzing the effects of climatic fluctuations on world food productions to develop predictive models of climate and food supply.
- A zoology professor emeritus and overseas colleagues continued work on the homing behavior of hatchery-raised salmon in Europe.
- In Brazil a team of economists and horticulturalists concluded a long-term study of small farms and small farm income.
- A Land Tenure Center team researched access by the rural poor to land, water and agricultural assets at study sites in Asia, Africa and Latin America.
- The Women in Development project outlined a study of women's roles in agriculture in the Caribbean.
- The Land Tenure Center began a new project in Botswana to study the effects of selling communally-owned land to private ranchers.

Periodically UW-Madison faculty from almost every discipline spend one or more years abroad to help establish or build teaching and research programs, advise on faculty recruitment and develop library holdings in Third World colleges and universities.

Educating foreign students is another way to affect agricultural practice abroad. Students from more than 100 countries study in ever-rising numbers at UW-Madison, as elsewhere, forming in Madison's case some 7 1/2 per cent of a student body of about 40,000. Nation-wide, however, it was found in 1980 that only 10.7 per cent of those foreign students were in Natural or Life Science or Agriculture, in comparison to 26.9 per cent in Engineering and 16.4 per cent in Business and Management. Active efforts to raise the number of foreign agricultural students, as well as to improve the training available to them at home, are underway with funding supplied in part by the U.S. Agency for International Development (AID).

Education, even in long-established institutions, is a slow process; building new educational institutions in Third World countries slower still; research—social or scientific—the slowest of all, though an occasional scientific discovery can dazzle with its apparent suddenness. Meanwhile many of the people of Bangladesh (population 85 million), a nation the size of the state of Wisconsin (population 4,680,000),

are hungry and malnourished.

Education and research seem the best hope, even so. A hundred and fifty years ago the South American *Liberator*, Simon Bolivar, lamented the slowness of the revolutionary changes he was trying to bring about. "It's like ploughing the sea," he said. One day, though the research may be slow, we will be ploughing the sea—literally—to make use of kelp and other high protein aquatic vegetables in feeding ourselves and a hungry world.

OTHER SOURCES ON U.S. AGRICULTURAL EXPORTS/WORLD FOOD

ORGANIZATION FOUNDING DATE	FUNDING	FUNCTIONS
World Bank (IBRD). IDA (Int'l Devel. Assoc. IFC (Int'l Finance Corp.). Founded: 1944. Contact: Pam Brennan, Public Affairs, 1818 H St. N.W., Washington, D.C. 20433 202/477-5344. President: A.W. Clausen.	150 nations contributed $37.4 billion (1979).	The Bank provides and promotes a flow of capital into agricultural and industrial development projects in member developing countries at conventional interest rates and loan terms (8 per cent, 3-5 years maturity). IDA is the soft-loan window of the Bank making interest free, 20-30 year maturity loans to the poorest nations. Both IBRD and IDA lend only for large scale public sector projects. The IFC facilitates the flow of private capital for investment in private enterprise in developing member countries.
UN Food and Agricultural Org. (FAO). Founded: 1943. Director: Don Kimmel, North American Office, 1776 F St. N.W., Washington, D.C. 20437 202/376-2239.	147 nations contributed $300 million (1978). IBRD, UNDP and various non-governmental organizations contributed as well.	The FAO serves as the executing agency for UNDP (UN Development Program food and agricultural programs). It promotes agricultural development through applied research and consultation. Administers UN World Food Programs and services the World Food Council as well as coordinating the Freedom from Hunger/Action for Development Campaign. The FAO has become the largest single organization providing agricultural and technical assistance to developing countries in the fields of forestry, fisheries, crops, and livestock.
US Agency for Int'l Development (USAID). Founded: 1961. Contact: Betty Snead, Media Specialist, 320 21st St. N.W., Washington, D.C. 20523 202/632-4274. Admin.: Douglas Bennett.	U.S. government $1.44 billion (1980).	The Office of Food for Peace of USAID jointly with the Foreign Agriculture Service of USDA serves as the U.S. government's primary food aid agency. It administers the P.L. 480 program which distributes U.S. agriculture commodities to developing nations on terms of low interest, long-term concessional sale (Title I) or as outright grants (Title II).
Institute for Food and Development Policy. Founded: 1975. Directors: Joseph Collins,	Individual and foundation support.	The institute is a policy-oriented research agency which tries to integrate understanding of all aspects of the food issue, particularly U.S. agricultural trade, aid, and monetary policies. Critical of the

OTHER SOURCES ON U.S. AGRICULTURAL EXPORTS/WORLD FOOD (Continued)

ORGANIZATION FOUNDING DATE	FUNDING	FUNCTIONS
Frances Moore Lappe, 2588 Mission St. San Francisco, CA 415/ 648-6090.		impact of U.S. foreign aid, multinational corporations, and many international development agencies on the Third World poor.
Int'l Food Policy Research Institute. Founded: 1975. Director: John Mellor, 1776 Massachusetts Ave. N.W., Washington, D.C. 20036. Contact: Barbara Barbiero, Communications Director 202/862-5600.	Int'l Devel. Research Center (Canada), World Bank, Ford & Rockefeller Foundations & UN Bodies.	A policy-oriented research group investigating policy problems affecting the production, consumption, availability and equitable distribution of food in the world. Emphasis on needs of developing countries and especially the nutrition needs of "vulnerable" groups.
Bread for the World. Founded: 1973. Director: Reverend Arthur Simon, 110 Maryland Ave. N.E., Washington, D.C. 20002. Contact: Paola Scommegna, Media Relations 202/544-3820.	Individual member subscriptions, foundation support.	A country-wide private membership organization combining direct citizen action with religious (Christian) principles devoted to alleviating world hunger. Emphasizes importance of government policies in affecting hunger and poverty issues, both domestic and worldwide. Many member groups stress citizen education on world hunger issues.
Consultative Group on Int'l Agricultural Research (CGIAR). Founded: 1971 (research institutes: 1961). Chairman: Warren Baum, 1818 H St. N.W., Washington, D.C. Contact: Olivia Vent, Information Officer 202/ 477-5347.	19 nations, African Dev. Bank, Arab Fund, Eur. Econ. Community, Ford Foundation, Rockefeller Foundation, Org. of Petroleum Exporting Countries, World Bank and others.	The Consultative Group oversees 13 international agricultural research institutes. The most famous are the International Rice Research Institute in the Philippines and the International Maize and Wheat Institute in Mexico. Strains of rice and wheat developed in each created the "Green Revolution" of the 1960s in many Third World countries. The Consultative Group's member institutes are considered the most advanced research centers concerned with Third World agriculture.
American Friends Service Committee (AFS) World Hunger Project. Director: J. Ciekot, 15 Rutherford Place, New York, NY 10003 212/598-0974.	Quaker, individual and foundation support.	Active education program on hunger issues offered through workshops, conferences, audio-visual and other materials; helps to form local task forces. Supports a political action network with current legislative information and action alerts.

OTHER SOURCES ON U.S. AGRICULTURAL EXPORTS/WORLD FOOD (Continued)

ORGANIZATION FOUNDING DATE	FUNDING	FUNCTIONS
Catholic Relief Services (CRS). Founded: 1943. Director: Rev. Edwin B. Broderick, D D., 1011 First Ave., New York, NY 10022. Contact: Beth Griffin 212/ 838-4700.	Catholic Church, individual and foundation support.	Provides relief supplies and medicines in emergencies anywhere in the world and conducts a wide variety of technical assistance and community development projects and training programs; helps establish cooperatives and construct improved food storage facilities where needed.
Cooperative for American Relief Everywhere (CARE Inc.). Founded: 1945. Director: Frank Goffio, 660 First Ave., New York, NY 10016. Contact: Edith Wilson, Communications 212/686 3110.	Individual and foundation support.	Mounts programs in LDCs combatting hunger, ill health, illiteracy and low productivity; converts the voluntary, people-to-people contributions of Americans and Canadians into various forms of relief and development with the help of national and local governments in host countries.
Universities Field Staff International (UFSI). (Formerly American Universities Field Staff). Founded: November 1951. Director: Peter Bird Martin, 4 West Wheelock St., P.O. Box 150, Hanover, NH 03755 603/643-2110.	Foundation, individual and corporation support.	Involves a corps of scholarly observers resident around the world who analyze and write about contemporary events and issues, and is a consortium of universities and educational institutions active in diffusing information on world conditions. UFSI is currently setting up a Third World news service (South-North News Service) to enhance the possibilities for publication of Third World news stories in the developed countries.
Interlink Press Service. Founded: March 1981. Director: Brennon Jones, 777 United Nations Plaza, New York, NY 10017. Contact: Carol Skyrm 212/599-0867.	Subscriptions, foundations, and telecommunication services.	U.S. distribution of Interpress Service, the Third World news agency (founded 1964) and other news and information services in developing countries.
The Hunger Project. Founded: 1977. Director: Joan	Individual support.	An organization claiming over 2 million members, The Hunger Project educates and coordinates grassroots activities related to

OTHER SOURCES ON U.S. AGRICULTURAL EXPORTS/WORLD FOOD (Continued)

ORGANIZATION FOUNDING DATE	FUNDING	FUNCTIONS
Holmes, 2015 Steiner St., San Francisco, CA 94115. Contact: Ruth Gagnan 415/346-6100.		world food problems and published "A Shift in the Wind," the organization's newsletter.

Entry-Points *for Journalists in the Land-Grants and Other Universities*

To find out what research is currently underway, call the Dean of Agriculture's office to outline the nature of the inquiry, followed by calls to chairmen of the departments he suggests. Naturally a university catalog helps in getting a sense of the scope and nature of the institution's agricultural pursuits and the local nomenclature. Using the University of Wisconsin-Madison as an example, its College of Agricultural and Life Sciences oversees the work of 22 departments. The School of Natural Resources has three departments; the Institute of Envionmental Studies five; and five other departments whose work often relates to food fall under the Graduate School of Arts and Sciences. In addition, at UW-Madison there are 21 research laboratories, centers, institutes and programs related to food from the Barley and Malt Laboratory to the Wildlife Resources Unit.

In addition to Wisconsin, the following universities combine work on agriculture (state, regional, and global) with extensive training and research in international studies. The latter studies involve faculty who speak many *exotic* languages of the Third World and have on-the-ground experience there. Though the title may vary from place to place, all will have a Dean or Director or Center of International Programs, who might usefully be called first.

Colorado State University
Fort Collins, CO 80523
303/491-1101

Cornell University
Ithaca, NY 14853
607/256-1000

Iowa State University
Ames, IA 50011
515/294-4111

Kansas State University
Manhattan, KS 66502
913/532-6222

Michigan State University
East Lansing, MI 48823
517/355-1855

New Mexico State University
Las Cruces, NM 88003
505/646-2035

Ohio State University
Columbus, OH 43210
614/422-6446

Oklahoma State University
Stillwater, OK 74074
405/624-5000

Purdue University
West Lafayette, IN 47907
317/749-8111

Rutgers University
New Brunswick, NJ 08903
201/932-1766

Texas A & M University System
College Station, TX 77843
713/845-3211

University of Arizona
Tucson, AR 85721
602/626-2751

University of California, Davis
Davis, CA 95616
916/752-1011

University of Florida
Gainesville, FA 32611
904/392-3261

University of Georgia
Athens, GA 30602
404/542-3030

University of Illinois
Urbana, IL 61801
217/333-1000

University of Minnesota
Minneapolis, MN 55455
612/373-2851

University of Nebraska
Lincoln, NE 68583
402/472-7211

Utah State University
U.M.C. 14
Logan, UT 84332

Virginia Polytechnic Institute
and State University
Blacksburg, VA 24061
703/961-6000

Washington State University
Pullman, WA 99164
509/335-3564

Suggested Reading

The following items are brief, current, non-technical for the most part, and available in most good public libraries of moderate size or directly from the publisher. They give an understanding of both the breadth and the diversity of today's thinking on agricultural exports and world food issues.

Foreign Policy Association

"Food, Humanity's Need, America's Interest," *Great Decisions*, 1981, New York, New York, 8 pp. Catalogue Department, Foreign Policy Associates, 205 Lexington Avenue, New York, NY 10016 212/481-8545. $6.00. If one has time for nothing else, this brief overview skillfully summarizes the major food issues and policy options.

Mellor, John W.

"Report of the International Food Policy Research Institute," 1980, 48 pp, 1776 Massachusetts Avenue, N.W., Washington, D.C 20036 202/862-5600. Somewhat technical but useful description of the research problems chosen as most vital in 1979-80 by this influential international organization.

Presidential Commission on World Hunger

"Overcoming World Hunger: The Challenge Ahead," June 1980, 29 pp. Order # 041-002-0016-6. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 202/783-3283. $3.75. A reflective summary of an impressive report prepared by Sol Linowitz and 19 other distinguished figures appointed to examine world food issues by President Carter. Largely ignored by the Reagan administration.

Ruttan, Vernon W. *et al.*

"Food Crisis?" *Society*, 17/6, September-October 1980, New Brunswick, New Jersey: Rutgers State University 08903, pp. 18-67. Substantial and fascinating studies, accessible to the layman, of food crisis, trade, ideologies, etc., by experts who write well.

Underwood, John M.

"Food Security and Food Policy in a World of Uncertainty," Working Paper, New York, New York, The Rockefeller Foundation, November 1979, 62 pp. A commissioned study which reviews and explains the failure of the worldwide food security program promoted after the famines of the early 1970s. (Out of print but available in libraries.)

World Food Institute

"World Food Trade and U.S. Agriculture," August 1981, 35 pp. Iowa State University, Ames, IA 50010 515/294-7699. Single copies available free of charge. Excellent short account of the U.S. food export role and its impact on American agriculture.

Lappe, Frances M., and Joseph Collins

Food First: Beyond the Myth of Scarcity, Institute for Food and Development Policy, 1885 Mission Street, San Francisco, CA 94103 415/648-6090. $3.95.